REFORM

How to run a country: Education

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1. Introduction

The greatest challenge for the education sector this Parliament is to raise school pupils' achievement at a lower cost to the taxpayer. This will benefit all public service users by maximising the impact of school education and freeing up funds for other sectors, such as college and further education. Yet it will not be easy for schools. The Government's commitment to protect cash spending per pupil implies a significant real terms squeeze, and pay rises and changes to employers' contributions are expected to push school costs up. Unless the Government enables the school system to provide better value for money, the performance of English pupils will continue to dwindle in international comparisons – and every child will be worse off because of it.

The Coalition Government sought to raise achievement by extending autonomy to more schools. Its predecessor attempted it through large increases in public investment. Neither policy has improved value for money. Previous research by *Reform* found no simple link between schools' spending and their pupils' results, indicating that schools could, in theory, improve results without receiving more money.[1] This chapter finds that education productivity has almost certainly been over-estimated due to grade inflation. While it is not known how much annual grade rises represent real or inflated improvements in pupils' education, even a modest estimation finds that education productivity has fallen rather than risen in recent years. In other words, the amount of time and effort exerted on education is not being translated into better teaching.

A new approach is needed that maximises the value created by every teacher and school, thereby improving wellbeing. As the Director for Education and Skills at the OECD, Andreas Schleicher, has said, "[t]he wellbeing of individuals and nations depend on nothing more than on what people know and what they can do with what they know."[2] Acquiring knowledge, skills and competencies lifts earnings, improves trust between people and facilitates the development of shared cultural norms. Higher levels of education improve physical health and increase personal fulfilment. Together and separately, these effects – higher earnings, better health and greater fulfilment – generate higher levels of individual wellbeing.

Improving wellbeing in the English education system requires a focus on autonomy, accountability and funding. Both the World Bank and OECD consider autonomy and accountability to be important factors in improving pupils' outcomes, although the impact they report is contingent on the level and type of autonomy and accountability.[3,4] To maximise wellbeing from these policy levers, the Government should aim to ensure:

- More autonomy: by encouraging schools to use their autonomy to innovate, the future challenges facing the school system will be addressed more effectively and at a lower cost.
- Better accountability: by improving school accountability, schools will focus on raising achievement for all, but particularly for the least advantaged.
- Fairer funding: a consistent and fair funding formula would reallocate resource to the most disadvantaged pupils and allow a better comparison of schools' relative value for money.

The Coalition Government made some progress on school accountability and autonomy, but more is possible. While it championed school and professional autonomy, it did not create the right environment for schools and teachers to use their autonomy to innovate. And while it reformed the school accountability system to focus schools' resources on all

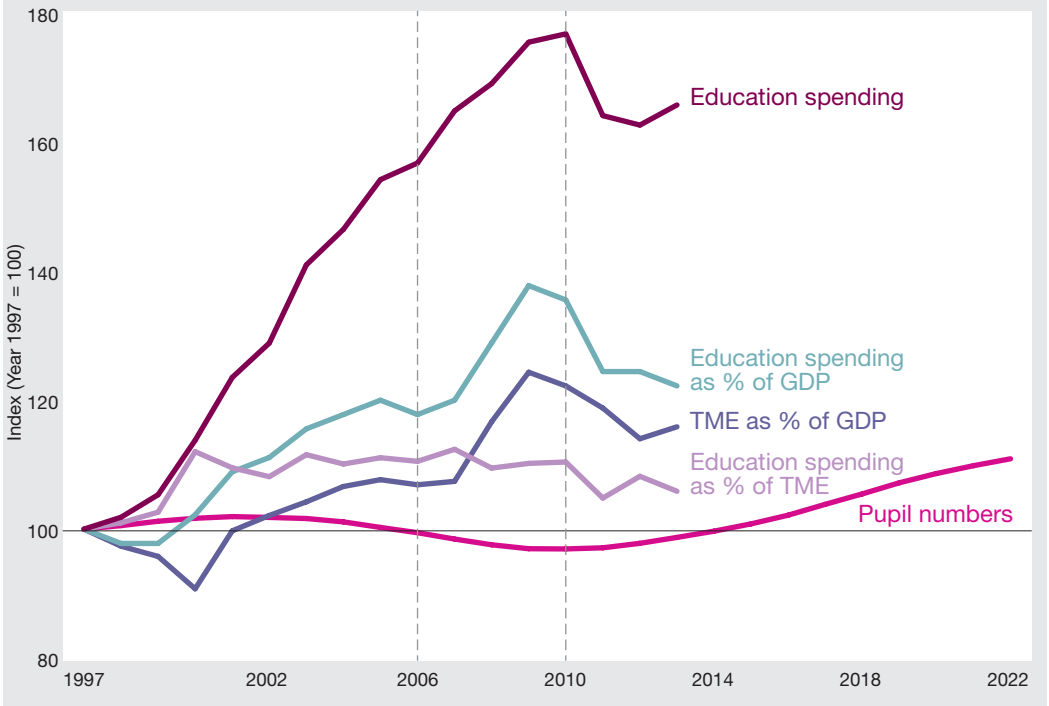
1 Lauren Thorpe, Kimberley Trewhitt and James Zuccollo, *Must Do Better: Spending on Schools,* Reform, May 2013.
2 Andreas Schleicher, "Don't Give Up on Education for All," *The Huffington Post*, 2 April 2014.
3 Gustavo Arcia, Kevin Macdonald, Harry Anthony Patrinos and Emilio Porta, "School Autonomy and Accountability," *System Assessment for Benchmarking Education for Results, Regulatory and Institutional Framework,* World Bank, Human Development Network, Washington, DC, 2011.
4 OECD, *School Autonomy and Accountability: Are They Related to Student Performance?*, 2011.

pupils, rather than just some, it did not reform school funding to ensure a consistent distribution of resources to pupils in different parts of the country. Moreover, by maintaining the ringfence on the schools budget, the Coalition prevented an honest discussion about how best to maximise wellbeing from this budget and across other areas of education spending.

2. The case for reform

The education system in England has a productivity problem. Productivity in education refers to the amount of activity needed within the sector to deliver the same standard of education to the same number of people. On a crude interpretation, this productivity problem has been created by coincident spending rises and falls in pupil numbers. Figure 1 shows that total spending on education rose year on year between 1997 and its height in 2010, both in real terms and as a percentage of GDP. The gradients show that education spending grew fastest between 2006 and 2010, during which period pupil numbers fell. Between 1997 and 2013, spending rose by 166 per cent whereas pupil numbers fell by 1 per cent.

Figure 1: Trends in education spending and pupil numbers[5]
Sources: HM Treasury (2014), *Public Expenditure Statistical Analyses;* Department for Education (2014), *National Pupil Projections; Reform* calculations.

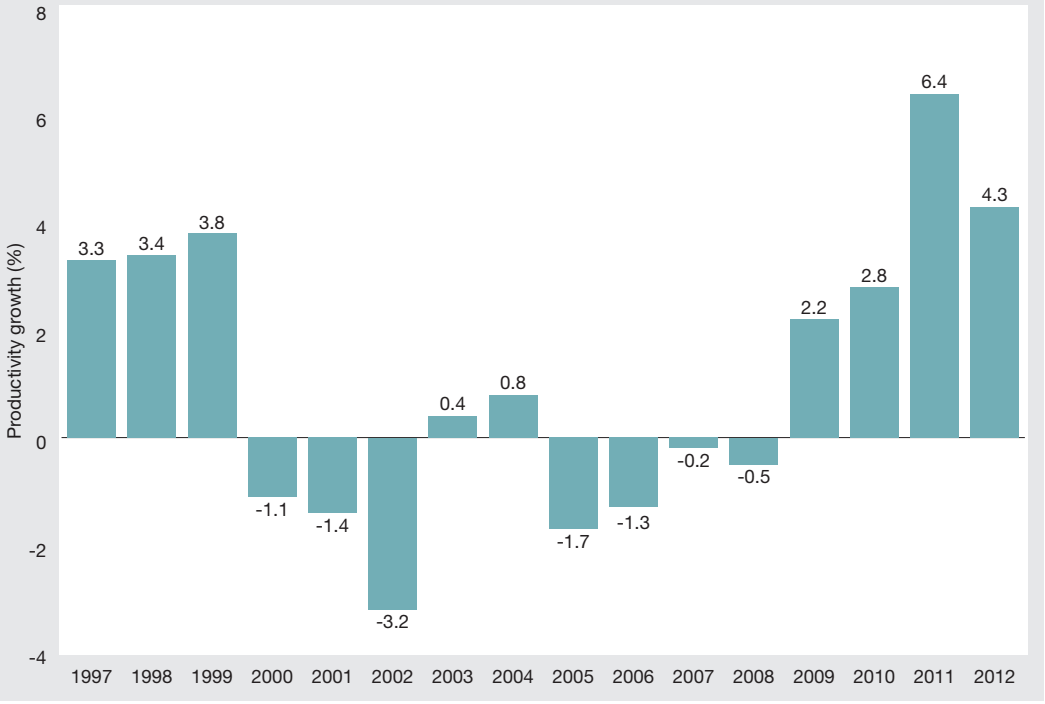


Since 2010, pupil numbers have been rising steadily, and are due to rise by 8 per cent over the next Parliament (see Figure 1). This will place significant pressure on existing and planned resource and capital budgets for schools. While the Government has committed to protecting cash spending per pupil, the Institute for Fiscal Studies (IFS) has estimated that this will result in a 7 per cent real terms cut per pupil.[6] Accounting for increases in National Insurance, pension contributions and public sector earnings growth, the real terms cut is estimated to be between 9 and 12 per cent per pupil.[7] As more children reach school age and costs rise, the schools sector must become more productive to maintain current levels of education. It will need to educate more people for a lower per pupil cost.

5 Underlying spending data in 2013-14 prices using ONS GDP deflator. Spending data for 1997-98 is on an accruals basis, whereas data for 1998-99 to 2013-14 is on a cash basis.
6 Luke Sibieta, "Schools Spending," Institute for Fiscal Studies, 2015.
7 Ibid.

Official productivity estimates (see Figure 2) show that productivity was in decline between 2000 and 2008 (with very small gains in 2003 and 2004), but is now steadily improving.[8] The period of decline coincides with the time when education spending was rising fastest, during the last two Labour Governments. The growth rates show the year-on-year change in productivity; that is, how much activity is needed to convert inputs into outputs, where inputs refer to the amount of labour, capital and goods and services, and outputs refer to the number of students and quality of education.

Figure 2: UK education productivity growth rates[9]
Source: Office for National Statistics (2014), *Public Service Productivity Estimates: Education, 2012*



The Office for National Statistics (ONS) estimates education output by calculating the quantity of people receiving education in each sector (primary, secondary and further education) adjusted for the quality of education received. For all sectors, the output quality is calculated using Key Stage 4 (KS4) performance at a national level.[10] An uncapped Average Point Score (APS) is calculated by multiplying the number of GCSE and GCSE-equivalent subjects each student takes by the difficulty level (higher grades score higher points).[11]

While APS at GCSE may well be the most suitable measure of education quality at a national level, it is contentious for two reasons. Firstly, it does not measure quality at either primary school or in further education. Secondly, it does not provide a full picture of children's outcomes at school. Children may be able to complete exams and coursework well, but might nevertheless lack the knowledge and skills in that subject area. Wider aspects of a school, such as the provision of extra curricula activities, add greatly to pupils' engagement and enjoyment in school, but will not necessarily be reflected in exam results. In addition, there is concern of a growing disconnect between traditional academic qualifications and 'non-cognitive' skills, such as the ability to learn independently, or cope in difficult situations. Nevertheless, alternative measures of

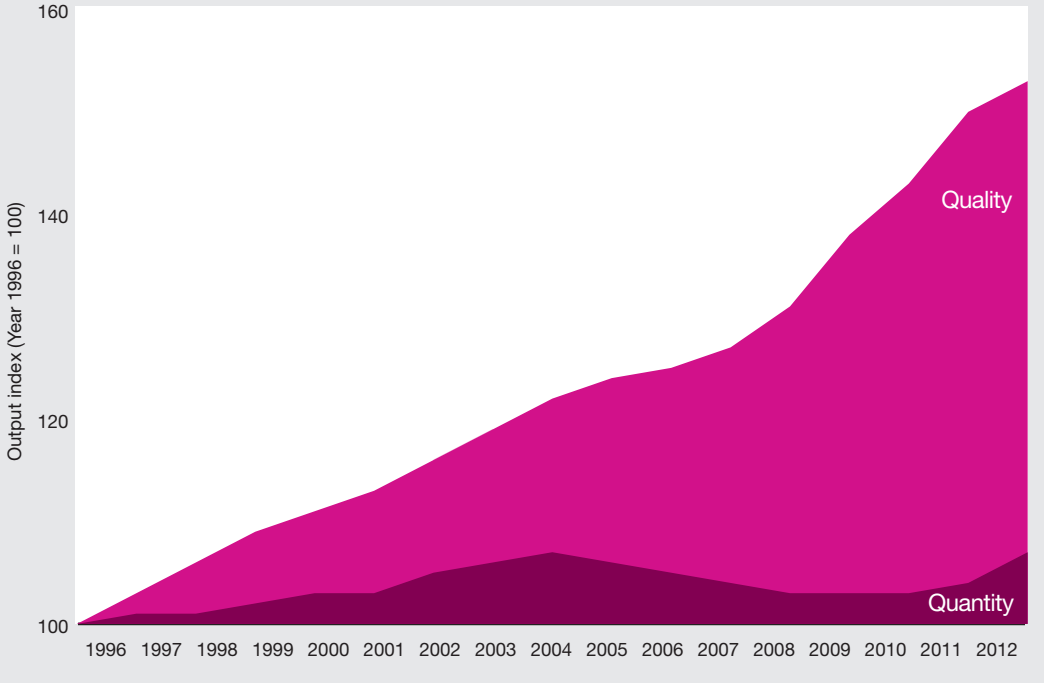
8 Office for National Statistics, *Public Service Productivity Estimates: Education, 2012*, September 2014.
9 Output includes early years, primary, secondary and further education. Input includes capital services, goods and services and labour.
10 Office for National Statistics, *Public Service Productivity Estimates: Education, 2012*.
11 This contrasts the new capped APS measure, which similarly scores pupils' performance, but only across their best eight subjects.

education outcomes are in their infancy, and not developed enough to use here.[12]

The return to productivity growth illustrated in Figure 2 is, on the face of it, counterintuitive. Pupil numbers have been falling since 2003 and only started to rise again in 2011 (see Figure 1).[13] Taking this fact in isolation would suggest a decrease, rather than increase, in productivity, as the quantity of pupils taking exams would be lower. There is also a substantive body of evidence to suggest that GCSE headline results have been subject to grade inflation.[14] This would imply that some of the rise in GCSE results have not been due to real improvements in education. If true, the official estimates of productivity growth are overstated.

To determine how much quality adjustment affects their output estimate, the ONS measures the contribution of quality adjustment on output over time. Figure 3 shows that quality adjustments have a much greater impact on education output than quantity. This is important because it means that declining pupil numbers would have a much lesser impact on overall productivity than improvement in pupils' results.

Figure 3: Impact of quality adjustment on education output, 1996-2012
Source: Office for National Statistics (2014), *Public Service Productivity Estimates: Education,* 2012



One alternative measure for the quality of education in the UK can be found through international comparisons. The Programme for International Student Assessment (PISA) is a triennial exercise organised by the OECD and run across 65 countries.[15] It compares the performance of 15 year olds in tests that measure key competencies in reading, maths and science. Given that the ONS measures UK education productivity, mean scores for the UK are used rather than scores for England. The UK sample size was too small in the first two years that PISA was conducted (2000 and 2003), so these have been omitted (see Appendix A for the methodology).

Trends in International Mathematics and Science (TIMSS) is a quadrennial international assessment run across 52 countries at both age 10 (Year 5) and age 14 (Year 9). The tests measure key competencies in maths and science across these age groups and have been

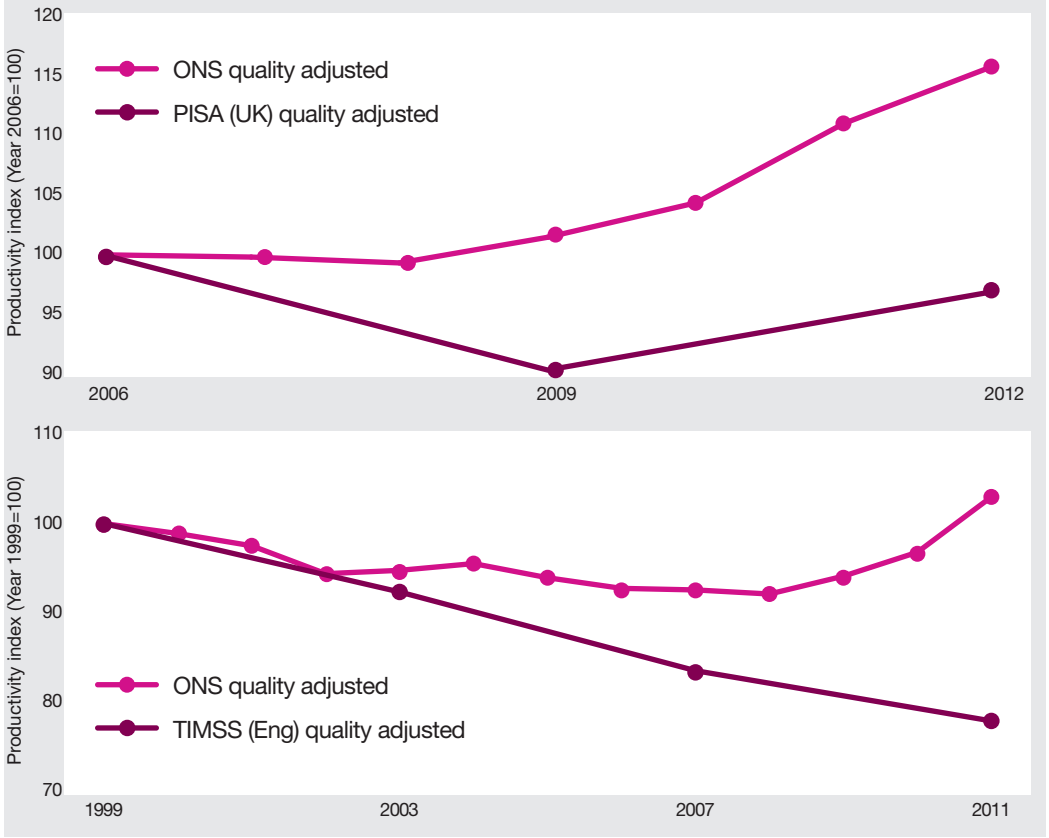
12 See for example the Association of School and College Leaders' alternative league tables and Cambridge Assessment's work with Open Public Services.
13 Department for Education, "Schools, Pupils and Their Characteristics: January 2014," 12 June 2014.
14 See for instance Robert Coe, *Changes in Standards at GCSE and A-Level: Evidence from ALIS and YELLIS*, April 2007; Robert Coe, *Improving Education: A Triumph of Hope over Experience*, June 2013.
15 The number of countries included in PISA has grown each year since the first assessment in 2000.

running since 1999. Results are published for England, Wales, Scotland and Northern Ireland separately; this analysis uses data from England only. This is likely to produce an optimistic measure of performance for the UK as a whole, as Wales performed significantly lower than England in PISA 2012 across reading, maths and science. England, Scotland and Northern Ireland performed similarly well across all three subjects.[16]

In contrast to rises in national KS4 figures, the UK's performance in PISA and England's performance in TIMSS has remained relatively stable. Appendix A shows the effect of using these different measures to quality adjust education output. While the change in scores between years is not always statistically significant, the appendix provides confidence intervals for PISA scores at 10th and 90th percentile. These show that it is extremely unlikely that the PISA scores could be as high as KS4 scores. While PISA and TIMSS do not measure the same competencies as KS4 performance, they nevertheless measure important aspects of education outcomes.

Figure 4 shows the impact of using different quality adjustments on education productivity. Using PISA or TIMSS in place of the ONS's APS measure has a considerable impact on education productivity. Rather than returning to growth, as the ONS suggests, these new estimates show that productivity has declined.

Figure 4: Effect of different quality adjustments on productivity
Sources: OECD (2006, 2009, 2012), *Programme for International Student Assessment: What Students Know and Can Do;* National Foundation for Educational Research (2011), *TIMSS 2011: mathematics and science achievement in England;* Office for National Statistics (2014), *Public Service Productivity Estimates: Education, 2012; Reform* calculations.



The difference between these two quality measures and the ONS measure is stark. PISA-adjusted productivity shows a reduction of three index points between 2006 and

16 Rebecca Wheater, Juliet Sizmur, Bethan Burge, Robert Ager, OECD programme for international student assessment and National Foundation for Educational Research, *Achievement of 15-Year-Olds in Wales: PISA 2012 National Report. OECD Programme for International Student Assessment: Report*, April 2014.

2012, rather than a rise of 15 index points. TIMSS-adjusted productivity shows a reduction of 30 index points between 1999 and 2011, rather than a rise of three index points. These results paint a broader picture of UK education productivity and thus should be used in conjunction with the ONS estimates, rather than as an alternative to them.

While not a definitive calculation of UK education productivity, this alternative assessment suggests the schools sector is providing worse value for money than it did ten years ago. Even if real productivity sits somewhere between the *Reform* and ONS estimation, improving value for money requires urgent attention. Cost pressures are unlikely to abate; even so, achieving more for less will improve the wellbeing of school pupils' and take pressure off other important education budgets. To drive up productivity and deliver better value for money the Government should focus on three areas of reform: autonomy, accountability and funding.

3. More autonomy

Schools that are able to use the expertise of their staff to innovate can improve pupils' attainment overall and for the most disadvantaged. Teachers and school leaders work more closely with pupils than central government does, and are therefore best placed to know what works. In theory, though perhaps less in practice, these two beliefs have driven school reform over the last two decades, from the first City Technology Colleges in the late 1980s to the now much expanded academy programme.

The Coalition Government drove a large expansion in school autonomy and put a strong emphasis on professional autonomy. Yet schools and teachers still face barriers to innovation, which are preventing the system from giving the most to pupils. The Government should make autonomy the 'new norm' so that it is easier for schools to innovate. It must also encourage schools to build capacity so that they can harness the skills and expertise needed to drive innovation.

3.1 Freedom and autonomy for schools

Extending school autonomy was central to the Coalition Government's aim to raise overall achievement and narrow the achievement gap. The previous Labour Government converted some 'failing'[17] local authority schools to new City Academies, schools independent of local authority control and management, with greater freedom over the curriculum, teacher terms and conditions, teacher pay and school and term dates. Unlike under Labour, the Coalition Government brought forward new legislation to enable all schools to apply for conversion. The Coalition Government also diversified school choice by introducing four new forms of schools: free schools, university technology colleges, careers colleges and studio schools. While these are legally identical to academy schools, they are small in number.

Evidence suggests that the pre-2010 sponsored academies were successful in raising pupils' attainment compared to local authority schools, even when controlling for pupils' prior attainment.[18,19] It should be noted however that previous to 2011-12, sponsored academies received more funding than their entitlement allowed, due to an accounting error in the Department for Education (DfE).[20] There is mixed evidence as to whether sponsored academies have been successful in narrowing the attainment gap between pupils from disadvantaged backgrounds and everyone else. While the proportion of pupils on free school meals achieving 5+ A*-C GCSEs has risen faster in sponsored academies than in local authority schools,[21] this could be explained by changes to sponsored

17 Ofsted rates schools across four categories, 'outstanding', 'good', 'requires improvement' and 'inadequate' ('failing').
18 Andrew Eyles and Stephen Machin, "The Introduction of Academy Schools to England's Education," September 2014.
19 It should be noted that pupils attending pre-2010 sponsored academies have a higher prior attainment than those attending similar maintained schools. However, Eyles and Machin (2014) controlled for pupils' prior attainment in their study.
20 Chris Cook, "Blunder gives academies extra cash," *Financial Times,* 16 June 2011.
21 House of Commons Education Select Committee, *Academies and Free Schools, Fourth Report of Session 2014-15*, January 2015.

academy schools' intake.[22] Other research suggests that sponsored academies have had no significant effect on pupils' achievement at the bottom of the ability distribution.[23]

It is too early to judge the success of the more recent converter academies, which converted to academy status from a position of strength. However, initial studies have shown there to be a limited impact of academy conversion on pupils' attainment progress.[24] As these converter academies were originally 'outstanding', the results may be explained by pre-existing differences between local authority and academy schools; local authority schools that are not 'outstanding' have further to progress. Despite the inconclusive evidence, it is plausible that the effect of the most recent academy conversions will emerge over time; many have not had the time for changes to embed.

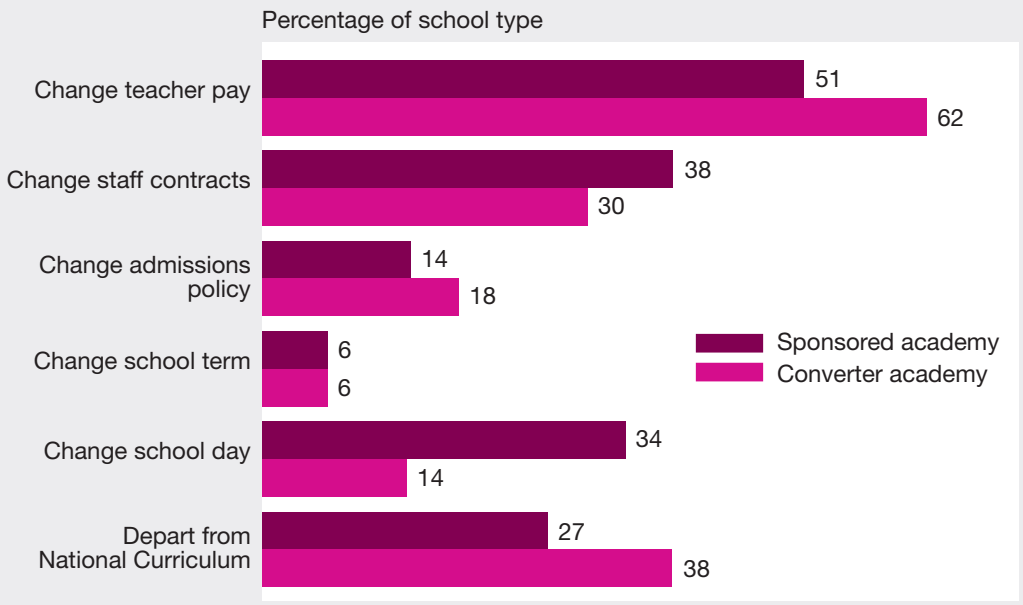
Research by *Reform* and SSAT last year supports the view that it takes time for the benefits of academy conversion to be reflected in exam results. The research gathered survey responses from 654 of the then 3,362 academy schools (20 per cent) in a broadly representative sample. The survey found that sponsored academies are more likely to report improved pupil results than converter academies. In addition, more recent academy converters are more likely to report that results have stayed the same, and less likely to report that results have improved (see Figure 5).

Figure 5: Have results improved since becoming an academy?
Source: Finch et al. (2014), *Plan A+ 2014: The unfinished revolution*

One explanation for the slow impact on results is that so few academies are using their freedom and autonomy. Figure 6 shows that around a third of both converter and sponsored academies are using the freedoms they have over the curriculum or teachers' terms and conditions. A survey of academies by the DfE reinforces these results, with a greater proportion of academies linking pay to performance than changing their curriculum.[25] According to the DfE study, between half and two-thirds of academies that had made changes to either the curriculum or school day linked these changes to improved attainment.[26]

22 Eyles and Machin, "The Introduction of Academy Schools to England's Education".
23 Stephen Machin and Olma Silva, *School structure, school autonomy and the tail*, March 2013.
24 Jack Worth and National Foundation for Educational Research in England and Wales, *Analysis of Academy School Performance in GCSEs 2013: Final Report*, July 2014.
25 Rob Cirin, *Do Academies Make Use of Their Autonomy?*, July 2014.
26 Ibid.

Figure 6: How many schools are using or plan to use their freedoms?
Source: Finch et al. (2014), *Plan A+ 2014: The unfinished revolution.*



It is possible that academies use some freedoms over others because of the regulatory environment. Two of the most popular freedoms across all academies surveyed were over teachers' pay and the curriculum (see Figure 6). Prior to the survey, which was undertaken in 2013, the Government had required all maintained schools to set out how they would link performance to teachers' pay from September 2014.[27] Additionally, the Government phased in a less prescriptive National Curriculum, which may have added to the legitimacy of using this freedom. Since the survey was undertaken, the Deregulation Act has given all school governing bodies the power to set their own term dates, independent from local authorities.[28]

In contrast to teacher pay, only 30 per cent of converter and 38 per cent of sponsored academies surveyed use their freedom to change staff terms and conditions. In 2013 the School Teachers' Review Body rejected proposals to remove the national framework around working hours and the provision to 'rarely cover' lessons for absent colleagues. This may explain why a considerably lower proportion of academies reported making changes to teachers' terms and conditions in contrast to teachers' pay. Maintaining these restrictions for local authority schools may deter academies from negotiating teachers' terms and conditions.

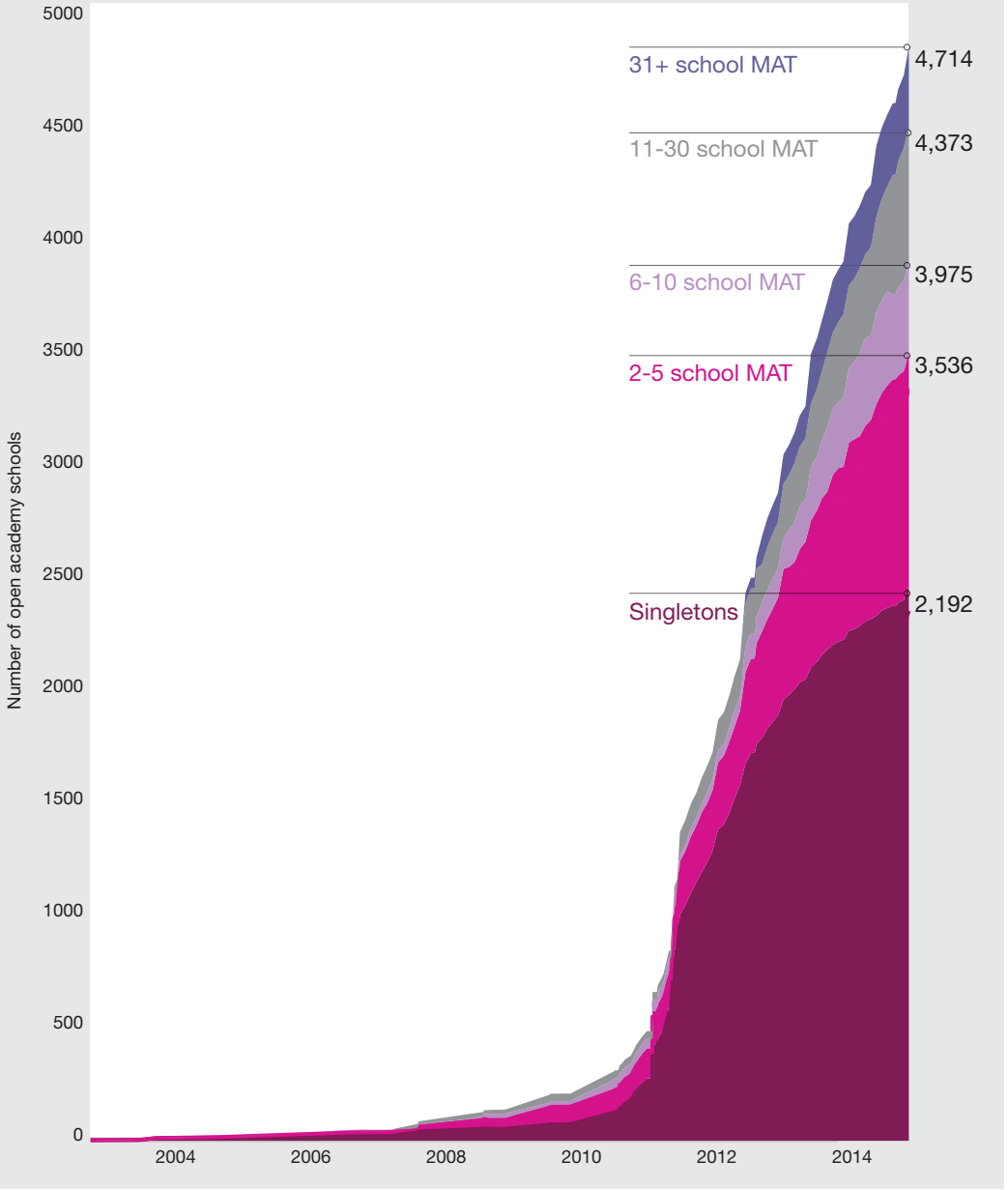
To encourage innovation in all schools, the Government should go further in deregulating the school environment. The Government should extend academy freedoms to all schools. This should include the freedom to hire unqualified teachers and make changes to teachers' terms and conditions. Local authorities could continue to manage and support local authority schools within this more autonomous framework.

3.2 The potential of school groups

One way to drive innovation is through economies of scale. Since 2010, the number of academies has risen vastly. Yet within this group, the majority of schools have either been standalone or in multi-academy trusts of just five schools or less. Figure 7 shows that 84 per cent of academies are either standalone schools or belong to a group of ten or fewer schools. Only 7 per cent are in a group of over 30 schools.

27 Department for Education, "Teachers' Pay: Changes since September 2013," 16 August 2013.
28 HM Government, *Deregulation Act 2015*, 2015.

Figure 7: Rise of academy schools by size of academy trust
Source: Department for Education (2015): *Edubase, March 2015.*



The lack of sizeable school groups may prevent academies from making the most of their freedoms and resources. Research published by *Reform* and authored by Parthenon-EY shows that school groups can make savings of between 5 and 8 per cent in a school's total budget, allowing schools to reinvest this money to develop best practice teaching and management.[29] In addition to their economies of scale, school groups offer a mechanism in which to standardise best teaching practice. Through means of a wider pool in which to trial new evidence-based practices, groups can offer more attractive career and development opportunities for teachers.

There have nevertheless been a very small number of high profile cases of large academy groups facing governance and financial problems. One explanation is that some chains grew too fast and did not sufficiently invest in their governance structures and operating models. These problems could be avoided were chains expected to reinvest more of their revenue to develop internal accountability mechanisms. While these examples are of real concern, they should not obscure the contribution that well-governed chains can make.

29 Matthew Robb and Anna Grotberg, *Education in Chains*, March 2015.

In addition to the problems noted above, there are a number of reasons why many schools and academies may not see the benefits of joining a large school group. For example, Ofsted inspects individual schools, irrespective of whether they are standalone schools or part of a high performing academy chain. Moreover, while academy groups of five schools or more receive capital for school rebuilding and refurbishment, this does not include capital for meeting the 'basic need' for new school places, where schools currently compete head to head.[30] Given the importance of scale to drive innovation, these barriers could be preventing important gains and improvements in value for money. The Government should remove the barriers to schools joining school groups, with a view to encouraging more schools to innovate.

Recommendation

The Government should extend academy freedoms to all schools. This should include the freedom to hire unqualified teachers and make changes to teachers' terms and conditions. It should also remove the barriers to schools joining school groups, with a view to encouraging more schools to innovate.

3.3 Professional autonomy

In the first education White Paper of last Parliament, *The Importance of Teaching*, the Coalition Government rightly recognised that "[n]o education system can be better than the quality of its teachers".[31] This renewed focus on the quality of teaching was matched by an expansion of Teach First and school-led initial teacher training, through the creation of new teaching schools, which were also aimed at addressing problems with teacher recruitment and retention. As *Reform* has argued previously, teacher quality "is the single biggest influence on pupils' educational progress".[32] The recruitment and retention of high quality teachers are fundamental to this, as is high quality continuing professional development.

A recognition of the importance of teaching was matched by rhetoric that teachers know best.[33] In the same White Paper, the Coalition Government set out its view that "teachers must be free to use their professionalism and expertise to support all children to progress".[34] To this aim, it brought in a new, knowledge-based National Curriculum and removed the requirement that teachers assess pupils' progress through its level descriptors.

The removal of 'levels' for assessing pupils' achievement and progress should be welcomed. Levels had gained a reputation among school teachers and leaders as being both overly bureaucratic and unhelpful in assessing pupils' progress. While it is only a year since they were abolished, the removal of levels has not unleashed the levels of innovation it was intended to. Many schools are inhibited from creating their own methods for assessing how well pupils are doing. This is particularly true of primary schools, where early formative assessment is crucial for pupils' progress. Primary schools are typically much smaller than secondary schools and thus can lack the economies of scale to buy in additional expertise or invest in high quality teacher development. There are also concerns about the way in which Ofsted will judge the comparability and robustness of schools' own assessment techniques.

The Government must think carefully about how it enables innovation in assessment to grow. During the last Parliament, the Coalition Government created an Assessment Innovation Fund to support schools in developing their own methods. The eight schools that were selected published a range of materials that are now free for other schools to

30 Department for Education, *Capital Funding for Multi-Academy Trusts (MATs)*, February 2015.
31 Department for Education, *The Importance of Teaching: the Schools White Paper 2010*, November 2010.
32 Dale Bassett, Andrew Haldenby, Will Tanner and Kimberley Trewhitt, *Every teacher matters,* Reform, November 2010.
33 This was one of the key findings of McKinsey's 2007 report, Michael Barber and Mona Mourshed, *How the World's Best Performing School Systems Came out on Top*, September 2007.
34 Department for Education, *The Importance of Teaching*.

use. The Government also established a Commission on Assessment to identify and share best practice with schools. Yet it is not clear how the success of this latest initiative will be judged, or whether it will introduce more prescription into the system. To be successful, the Commission must maintain professional autonomy at a school level.

4. Better accountability

The way in which the Government holds schools to account has a significant impact on the quality of education pupils receive. It can change how much attention certain groups of pupils get given and the qualifications they take. These are both crucial in determining a pupils' chance of accessing and progressing in employment, and their potential to lead a full and happy life. A good accountability system will encourage schools to raise achievement for all their pupils, particularly for those least advantaged.

The Coalition Government made significant improvements to school accountability by reforming the way school performance is measured in league tables. New minimum standards for primary and secondary schools have encouraged schools to focus on raising the achievement of all their pupils. The removal of arbitrary league table equivalences has encouraged more pupils to take highly valued qualifications. New measures of progress have enabled the Government to compare schools on their ability to add educational value to each pupil. Yet despite these critical improvements, a number of concerns still remain around the effectiveness of oversight and intervention for both academies and local authority schools.[35]

4.1 Raising achievement for all

The Coalition Government's reforms to the school accountability system have made huge progress in removing the perverse incentives for schools to focus their resources on pupils at key grade boundaries. A new measure of pupils' progress in eight subjects (Progress 8) will be used to set minimum standards for secondary schools from September 2016.[36,37] Poor performance on this measure will be used to highlight struggling schools, replacing the percentage of pupils achieving 5+ A*-C GCSE grades. This should encourage schools to raise achievement for all their pupils, rather than focus on pupils at the C/D GCSE grade boundary.

The Coalition Government also made changes to the minimum standards for primary schools. While it maintained both attainment and progress measures, the percentage of pupils it required to meet these measures rose from 60 to 65 per cent in 2013-14 and will be 85 per cent from 2015-16.[38] It has also raised the level at which pupils are expected to have reached by the end of primary school. From 2015-16, this standard will be equivalent to a current 'level 4b'.[39] These reforms were coupled with the introduction of an optional baseline assessment for pupils in reception and phonics screening at age six.[40]

4.2 Widening access to highly valued qualifications

Performance measures not only impact on how teachers spend their time, but the type of subjects that pupils study. Other important reforms to school accountability have removed perverse incentives to encourage pupils to study for qualifications which do not help them progress into further education or employment.[41] The former Qualifications and Curriculum Development Agency (QCDA), and previous to that the Qualifications and

35 See Amyas Morse, *Investigation into the Education Funding Agency's Oversight of Related Party Transactions at Durand Academy: Report by the Comptroller and Auditor General*, November 2014; House of Commons Education Select Committee, *Academies and Free Schools*.
36 Simon Burgess and David Thomson, *Key Stage 4 Accountability: Progress Measure and Intervention Trigger*, December 2013; Department for Education, *Factsheet: Progress 8 measure,* February 2014.
37 Some secondary schools opted into using this measure from September 2015. Floor standards for schools will continue to be based on both progress and raw attainment in reading and maths. See Department for Education, *Reforming assessment and accountability for primary schools,* March 2014.
38 Department for Education, *Reforming Assessment and Accountability for Primary Schools*.
39 Ibid.
40 Ibid.
41 Alison Wolf, *Review of Vocational Education: The Wolf Report*, March 2011.

Curriculum Authority, was designed to give all vocational qualifications a common scale 'equivalence', irrespective of their difficulty 'level'. This led to wide-spread 'gaming' in schools, with many pupils encouraged to study for qualifications that made them worse off in the labour market than had they studied for alternative qualifications.[42]

The abolition of the QCDA under the Coalition Government was coupled with a requirement that pupils study English and maths beyond the age of 16, if they had not already achieved a 'good' pass at GCSE (grade C or above). This was supplemented with a new performance measure in league tables for just English and maths, and the introduction of the EBacc performance measure, including performance in English, maths, science, humanities and modern languages. Pupils on free school meals, and often among the most disadvantaged in society, are more likely to attain below grade C in GCSE English and maths than those from more advantaged backgrounds. English and maths have high value in the labour market.[43] Thus the focus on improving access to these qualifications will improve the chances of those most disadvantaged being in employment, thereby improving wellbeing.

4.3 Narrowing the achievement gap

Narrowing the achievement gap between the least advantaged in society and everyone else was a core focus for the Coalition Government. It introduced a Pupil Premium through which to allocate schools additional funds for each pupil on free school meals. Schools are required to publish spending on the Pupil Premium on their websites. In this financial year, the Pupil Premium is worth £1,300 per primary school pupil and £935 per secondary school pupil. The rationale was to encourage schools to admit more pupils from disadvantaged backgrounds,[44] and to provide those schools with more funds on the basis that providing education to these pupils is more expensive. It should be noted that weighting funding according to deprivation was also the basis for changes to school funding through local authorities, which is discussed more in the next section.

While the gap between pupils on free school meals and everyone else has remained stubbornly wide at between 25 and 26 per cent on the headline 5+ GCSEs A*-C measure,[45] there are signs that it is narrowing on the new progress measure.[46] According to the new education research centre, Education Datalab, on this measure the gap is on track to close by 2032.[47]

5. Fairer funding

5.1 Schools funding

In addition to rising public spending on education, spending per school pupil aged 5-16 years has also been rising in real terms at least a decade.[48,49] It grew at an historic rate between 1998 and 2009, increasing by an average of nearly 6 per cent a year.[50] Since 2010, growth has been much slower, averaging 0.7 per cent a year.[51] The schools budget now stands at £39 billion and remains the third largest ringfence in public spending, after the NHS and defence.

The reason most often cited for increasing per pupil funding is to improve pupils' outcomes. Yet two separate studies for the DfE have questioned a relationship between

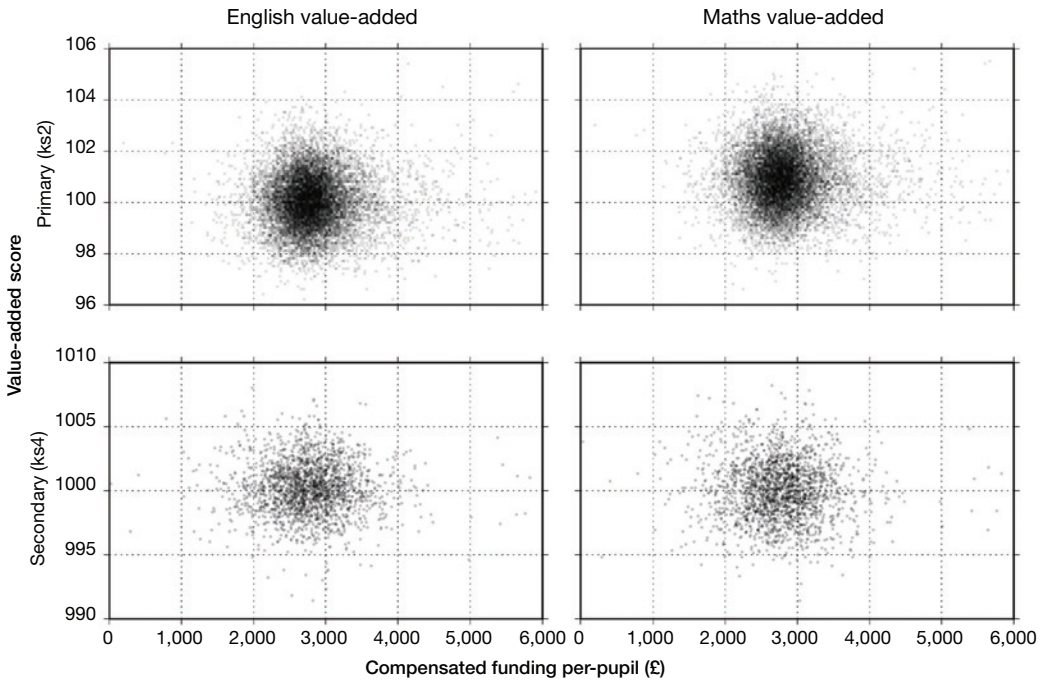
42 Lorraine Dearden, Leslie McGranahan and Barbara Sianesi, *An in-Depth Analysis of the Returns to National Vocational Qualifications Obtained at Level 2*, December 2004.
43 See Appendix 3 in Wolf, *Review of Vocational Education* for an overview of the literature.
44 While all state-funded schools are required to follow the Schools Admissions Code, there is a considerable body of evidence to show how schools can "cherry pick" high attaining pupils.
45 Department for Education, *Revised GCSE and Equivalents Results in England, 2013 to 2014*.
46 Education Datalab, *Seven Thing You Might Not Know about Our Schools*, March 2015.
47 Ibid.
48 Haroon Chowdry and Luke Sibieta, *Trends in education and spending in schools*, Institute for Fiscal Studies, October 2011, Figure 2.
49 This excludes funding for pupils aged 16-19, which has fallen over the last Parliament.
50 Ibid.
51 Ibid.

school spending and the quality of education. [52] The Coalition Government chose to ignore this in maintaining a ringfence around the schools budget for 5-16 year olds.

Previous *Reform* research has also shown there to be no relationship between spending and pupil outcomes at a school level. Figure 8 demonstrates the absence of a correlation between per pupil funding and results in English and maths at the end of primary and secondary school. The contextual value added score measures whether pupils within the school are making more or less than average progress when compared with pupils from similar backgrounds.[53] The compensated funding level is calculated on the basis of a hypothetical national funding formula, accounting for factors currently used to fund schools in England, such a deprivation and schools' fixed costs. The dispersion of dots shows the wide variation of funding and results, and the bunching in the centre shows that there is no relationship between the two.

Figure 8: Correlation between per pupil funding and results

Source: Thorpe *et al.* (2013), *Must do better: spending on schools; Reform* calculations based on Department for Education (2011), *Income and expenditure in schools in England: Local Authority maintained schools, 2010-11.*



This analysis suggests that greater funding alone will not improve pupils' results. Schools vary substantially in efficiency; some achieve exceptional results with relatively low per pupil funding. This varying efficiency may well explain why the education sector as a whole is struggling to improve value for money. On a fair comparison of per pupil funding, some schools spend twice as much as others to achieve the same results for their pupils. The Government must therefore improve schools' relative efficiency in order to improve education spending within existing and planned budgets.

The current accountability framework for schools is not geared up to encourage schools to provide value for money within their existing budgets. While the Education Funding Agency conducts annual financial audits for academy schools, it is not expected to assess the ability of the academy to translate these funds into outcomes for pupils.[54] In addition, the Ofsted inspection framework does not make a 'judgement' on school

52 See Deloitte, *Quality Counts: What Can Analysis of the National Pupil Database Tell Us about Educational Outcomes?*, November 2012; Rebecca Allen, Imran Rasul and Leigh McKenna, *Understanding School Financial Decisions*, 2012.
53 The contextual value added measure did not include pupils' prior attainment.
54 National Audit Office, *Performance and Capability of the Education Funding Agency,* January 2014.

efficiency.[55] Nevertheless, within the context of making a judgement on the quality of leadership and management, an inspector is expected to "...evaluate how efficiently and effectively the school is led and managed."[56] Although there are questions around Ofsted's current ability to undertake the task, this is a missed opportunity to realign schools' priorities to provide value for money.

The above analysis is muddied by an arbitrary and unfair school funding system. Soon after the Coalition Government came to power, it consulted on the introduction of a fair funding formula for schools (teaching 5 to 16 year olds), recognising that "the school funding system creates large variations…that bear little resemblance to the needs of schools and their pupils today." [57,58] It took small steps towards this aim by reducing the number of factors local authorities use when allocating funding to schools and streamlining central funding through three separate blocks.[59]

However, there are still vast funding disparities across schools in different local authorities, when accounting for similar pupil intakes. Previous research by *Reform* shows that the amount of per pupil funding schools receive can range from between £2,000 and £8,000.[60] While additional funding through the Pupil Premium has also reallocated more funding to schools in the most deprived areas, this has not achieved a consistent or fair funding system on a pupil level.[61]

The lack of a consistent funding formula for schools prevents the Government from comparing the relative efficiency of schools. While there has been much recent rhetoric about 'coasting' schools, some schools may flatline in the league tables with a relatively low budget, and others with a relatively high budget. A consistent funding formula across schools would make it easier to compare value for money across schools.

Recommendation

The Government should introduce a national funding formula that is fair and consistent across schools with similar pupil intakes weighted for pupils' deprivation and local labour market conditions.

5.2 Funding across government

Maintaining the ringfence on the schools budget has meant that other areas of public spending, and indeed other areas of spending within the education budget as a whole, have had to bear significant cuts in comparison. For example, school and college education for those aged 16 to 19 years have not been protected by the ringfence.

Table 1 shows the distribution of spending across the education budget. It shows a significant increase in spending on Early Years (39 per cent) and schools (3 per cent) in comparison to a large reduction in spending on 16-19 year olds (14 per cent decrease).[62] Significant reductions have also been made to the adult skills budget, which sits within the Department for Business, Innovation and Skills (BIS). According to the Government's own figures, this budget decreased by 11 per cent in real terms in 2014-15 and is set to reduce by a further 24 per cent this financial year.[63]

55 The previous inspection regime (2005-2012) had a single judgement for efficiency in a school. Inspectors were required to give a level rating specifically for value for money, which could include consideration of "...how efficiently the provider uses its staff, financial planning, and controls and mechanisms to ensure accountability and financial stability."
56 Ofsted, *School Inspection Handbook*, January 2015.
57 Department for Education, *Consultation on School Funding Reform: Proposals for a Fairer System*, 2011.
58 Department for Education, "Fair Funding for All Schools," 13 April 2012.
59 Department for Education, *Calculating Schools Block Units of Funding 2015 to 2016*, July 2014.
60 Thorpe, Trewhitt and Zuccollo, *Must Do Better: Spending on Schools*.
61 Sibieta, "Schools Spending."
62 Most of this increase is attributable to the expansion of early years education entitlement to two year olds (Sibieta, "Schools Spending").
63 Skills Funding Agency, "Allocations for the Funding Year 2015 to 2016," 26 February 2015.

Table 1: Department for Education DEL budget, 2010-11 and 2014-15
Source: Luke Sibieta (2015), "Schools spending", *IFS Briefing Note.*

	2010-11	2014-15	% total change	% annual average
	(£bn, 2015-16 prices)		(real terms)	
DfE capital DEL	7.8	5.1	-34.3%	-10.0%
DfE resource DEL	54.8	54.2	-1.2%	-0.3%
Of which:				
Early years budget	2.1	2.9	39.1%	8.6%
Schools budget (ages 5-16)	37.5	38.6	3.0%	0.7%
16-19 education budget	8.8	7.6	-13.6%	-3.6%
DfE total DEL	62.6	59.3	-5.3%	1.4%

Given the importance of further education in improving a person's job prospects, continuing to reduce the adult skills and 16-19 education budget is likely to reduce wellbeing.[64] School and college education deliver important qualifications that are vital for a young person's employment opportunities, and the adult skills budget funds education and training for adults without formal qualifications or the unemployed. These groups of people are often furthest away from the labour market and thus, among the most disadvantaged in society.

While there is room to achieve better value for money within the schools budget, opportunities to shift spending to towards those with low, or no, qualifications must be prioritised. The Government should consider the broader impact of education spending decisions on improving employment opportunities for the most disadvantaged.

BIS uses employment data in order to estimate the labour market returns to qualifications gained in further education.[65] Over the last Parliament, DfE developed destination data for school leavers.[66] This shows the percentage of pupils leaving for certain types of tertiary education or employment. However, these two datasets are not integrated, and are based on aggregate rather than person-level data. This prevents an evaluation of the relative value of different forms of education in improving employment. In particular, current school destination data does not enable a comparison of the employment prospects for pupils achieving a certain level or grade. Students do not therefore have a full enough picture of which qualifications and forms of education will support them into employment or further education.

Recommendation

The Government should consider the broader impact of education spending decisions on improving employment opportunities for the most disadvantaged. It should integrate school destination data with employment data, including earnings and out-of-work benefits.

64 See for example Department for Business, Innovation and Skills, *The Relationship between Adult Learning and Wellbeing: Evidence from the 1958 National Child Development Study*, November 2012; Department for Business, Innovation & Skills, *The Impact of Further Education Learning*, January 2013.
65 Department for Business, Innovation and Skills, *Estimation of the Labour Market Returns to Qualifications Gained in English Further Education*, December 2014.
66 Department for Education, *Destinations of Key Stage 4 and Key Stage 5 Students, 2012/13*, January 2014.

6. Conclusion

The greatest challenge for the Government's education policy is to improve value for money in schools. This requires a relentless focus on improving the quality of teaching, and the right structures and funding systems to ensure these improvements are cost-effective and sustainable. While the Coalition Government made important improvements to school and professional autonomy and accountability, more is needed to encourage schools to use their autonomy to innovate. The introduction of a consistent and fair funding formula would reallocate resource to the most needy and allow a better comparison of schools' relative value for money.